

VISIT...

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Writing Prompt

You are traveling by train in Western Europe at night. In the morning you wake up to find you are on the wrong train. This one has traveled to Russia! You don't speak Russian. You don't know anyone there. You need to reach your original destination. Write a story about how you solve your problem.



Writer's Checklist

- ✓ Ask yourself, who will read my story?
- ✓ Think about your purpose for writing.
- ✓ Plan your writing before beginning.
- ✓ Use details to support your story.
- ✓ Be sure your story has a problem and a solution.
- ✓ Use your best spelling, grammar, and punctuation.

EXTREME WEATHER



Talk About It

What is the most extreme weather experience you have had? What happened and what did you learn from it?



Find out more about
extreme weather at
www.macmillanmh.com

Vocabulary

damages	atmosphere
property	destruction
available	hurricanes
contact	surge



Dictionary

Multiple-Meaning Words

are words with several different meanings. If one meaning doesn't fit the sentence, look for its other definition. For example, the word *atmosphere* is a multiple-meaning word.

THE EXTREME COSTS OF EXTREME WEATHER

by Eliana Rodriguez

Every now and then, nature provides examples of extreme weather. At these times the temperature, wind, water, and air pressure sometimes go wild. The result can be billions of dollars in **damages** to **property**. People's homes and belongings can be destroyed and people are sometimes hurt.

One government agency tracks the cost of extreme weather. Every year it lists each weather event that costs the United States a billion dollars or more. These facts can be obtained readily and are **available** to the public.

From May 1999 to May 2000 many incidents of extreme weather occurred. In May 1999, tornadoes ripped through Oklahoma and Kansas. A tornado is a violently spinning column of air. First, warm air makes **contact** with cool air in the **atmosphere** or surrounding air. Next, the warmer and cooler air stir together, spinning faster and faster. Finally, a tornado is born. The May 1999 tornadoes cut a 1.7 billion dollar path of ruin and **destruction**, killing 55 people.

Hurricanes are storms with heavy rain and strong winds, over 75 miles-per-hour, that grow stronger over warm oceans. In September 1999 a hurricane called Floyd hit North Carolina. When Hurricane Floyd hit land, its heavy rains lasted for two days. This rain caused a **surge** of water that rushed powerfully along North Carolina's coast. Twelve other states also had flooding. Floyd's price tag was 6.5 billion dollars and 77 people died.

By May of 2000, high temperatures and a drought in the western United States caused raging fires. Nearly 7 million acres burned and losses were more than 2 billion dollars.

Nature sometimes uses snow and ice to create extreme weather conditions. For example, blizzards are costly winter problems. A blizzard occurs when winds blow



at 35 miles-per-hour, the temperature is 20°F or lower, and snow falls. One blizzard called the “Storm of the Century,” howled along the east coast of the United States in March 1993. It cost more than 7 billion dollars and caused 270 deaths. Now that's extreme!

Reread for Comprehension



Text Structure Description

Description is one way authors organize, or structure nonfiction text. A Description Chart will help you understand this text structure. Signal words like *first*, *next*, *finally*, or *for example* will alert you to descriptive facts. Use the Description Chart as you reread this selection.

Signal Words	Descriptive Facts

Comprehension

Genre

Informational Nonfiction

Presents facts about real people, things, places, or events.



Text Structure

Description

As you read, use your Description Chart.

Signal Words	Descriptive Facts

Read to Find Out

How does a tropical storm become a category 5 hurricane?



HURRICANES

by **SEYMOUR SIMON**

Hurricanes are huge spinning storms that develop in warm areas around the equator. Hurricanes bring strong winds, heavy rains, storm surges, flooding, and sometimes even tornadoes. Coastal areas and islands are in the most danger during a hurricane, but even inland areas are at risk.

Hurricane season along the East Coast of the United States begins in June and continues until the end of November. The peak hurricane months are August and September. The East Coast averages about five hurricanes a year. Over other parts of the world, hurricanes happen year-round.





The word *hurricane* comes from people who lived in the Tropics in earlier times. The ancient Mayan people of South and Central America called their storm god Hunraken. An evil god of the Taino people of the Caribbean was called Huracan. Hurricanes are not really evil, but they can cause terrible **destruction** and great loss of life.

Hurricanes are one of three kinds of storms called tropical cyclones. Tropical means that the storms form over the warm waters of the Tropics near the equator. Cyclones are storms spinning around a calm center of low air pressure, which also moves. Cyclones spin counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

Tropical depressions are cyclones of clouds and thunderstorms that spin around a central area. They have steady wind speeds of 38 miles per hour or less.

Tropical storms are cyclones of heavy clouds and strong thunderstorms that spin at steady wind speeds of 39 to 73 miles per hour.

Hurricanes are the strongest tropical cyclones. They have steady winds of 74 miles per hour or higher. When these storms form over the North Atlantic, Caribbean Sea, Gulf of Mexico, or the west coast of Mexico, they are called hurricanes. In the North Pacific, these kinds of storms are called typhoons, and in the Indian Ocean they are called cyclones. In Australia, hurricanes are called willy-willies, after the word whirly-whirly.

Hurricanes are the only weather disasters that have been given their own names, such as Andrew, Camille, Floyd, Fran, Hugo, Irene, and Opal. In some ways all hurricanes are alike. But like different people, each hurricane has its own story.



Description

What characteristics does the author list about hurricanes?

All hurricanes form in the same way. They begin life in the warm, moist **atmosphere** over tropical ocean waters. First, the atmosphere gathers heat energy through **contact** with ocean waters that are above eighty degrees Fahrenheit to a depth of about two hundred feet. Next, moisture evaporating from the warm waters enters the atmosphere and begins to power the infant hurricane.

The growing hurricane forms bands of clouds and winds near the ocean surface that spiral air inward. Thunderstorms form, heating the air further and forcing the winds to rise higher into the atmosphere and the spinning to increase. Because of their power, hurricanes can easily last more than a week and may strike Caribbean islands days before whirling north and east into the United States.

Hurricane forecasts estimate when the eye will pass over a particular location. But even a small hurricane has damaging winds and rains that may arrive many hours before the eye.

One of the worst hurricanes in the United States in terms of **property** damage was Hurricane Andrew. Andrew became a tropical storm in the southern Atlantic Ocean on August 17, 1992. At first, Andrew was a small storm with winds of about 40 miles per hour. But the storm rapidly gained strength over the warm waters, and wind speeds reached 155 miles per hour. Andrew was a category 5 hurricane by the time it passed over the Bahamas and began heading east toward Florida.



Description

Which signal words in the first paragraph alert you to an upcoming list of descriptive facts?





Andrew hit the coastline of southern Florida on August 24. It was moving quickly and dropped about seven inches of rain across the state. Even more rain would have fallen had it been moving slowly. Storm tides reached seventeen feet along Biscayne Bay.

Wind speeds started to decrease over land, but Andrew quickly reached the warm waters in the Gulf of Mexico, where it regained 120-mile-per-hour winds. Then Andrew turned and slammed into the shoreline of Louisiana on August 26.

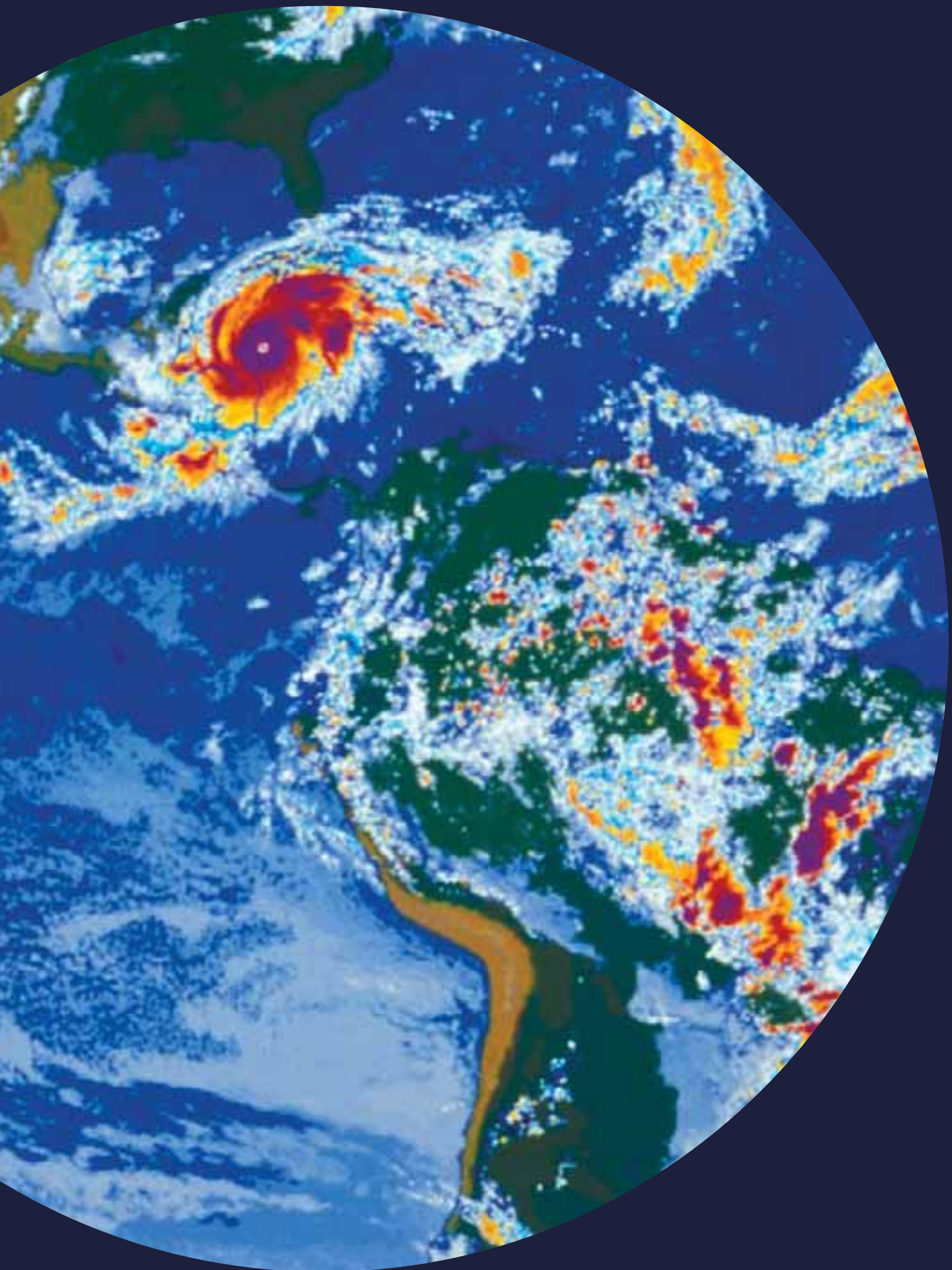
Andrew left a path of destruction in its wake. **Damages** totaled more than \$25 billion. Thousands of people had lost their homes. More than a million people had been evacuated. But fewer than fifty-five people died, because of early hurricane warnings.

Weather forecasters at the National Hurricane Center were able to give a twenty-one-hour advance warning of Hurricane Andrew. This made it possible for people to flee dangerous low-lying places along the coast and go to safer spots inland.

Forecasters need to find where a hurricane is developing and how strong it is. At one time this was possible only when people saw the storm from a ship or from land. Nowadays forecasters use satellite images, airplanes, radar, and computers to track a hurricane.

Weather satellites orbit the earth at an altitude of nearly twenty-two thousand miles over the equator. The satellites send back images day and night of bands of clouds and early signs of a tropical storm. To get accurate readings of wind speed and pressure, pilots and scientists fly right through a hurricane into its eye.





When a hurricane gets close to the coast, it is pictured on land-based weather radars. Doppler radars show wind speeds and location and quickly detect changes. The National Hurricane Center takes the information from radars and other sources and uses computers to help forecast the path, speed, and strength of hurricanes.

Hurricane and storm warnings are broadcast over radio and television and are also **available** on the Internet. National Oceanic and Atmospheric Administration (NOAA) Weather Radio broadcasts warnings, watches, forecasts, and other weather information twenty-four hours a day. These radio stations cover all the states, coastal waters, Puerto Rico, and United States Pacific territories.

A hurricane or a flood *watch* is usually given within thirty-six hours of an approaching storm. During a watch, it's important to prepare and decide what you and your family are going to do during the storm. A hurricane or a flood *warning* is usually given within twenty-four hours for a particular area. During a warning, listen to local radio or television stations for safety instructions.

National Weather Service (NWS) radios are specially equipped to give you immediate news about tropical hurricanes and floods. Regular NWS programs send out a special tone that turns on these radios in the listening area when there is an emergency. The radios can be connected to lights, computers, even bed shakers so that everyone can get the information.

Because of early warnings, the number of hurricane-related deaths has decreased in the United States in recent years. But hurricanes still remain a danger along the Atlantic coast and the Gulf of Mexico.







Scientists think that, potentially, the most dangerous place in the United States during a hurricane is New Orleans. That's because a storm **surge** could cover the low-lying city with twenty feet of water. Southwest Florida from Tampa Bay to the Everglades National Park is also dangerous, because the area is also very close to sea level.

If you are ever caught in a hurricane, it's important to know what to do. The first thing to remember is to listen closely to the radio, television, or NOAA Weather Radio for official bulletins. Follow instructions and leave immediately with your family if told to do so.

Only stay in a house if you are not ordered to leave. Stay away from windows and doors during the storm. During the worst of the storm, lie on the floor under a table or another sturdy object. Make sure you have a battery-driven portable radio and keep listening for storm information. Keep on hand at least a three-day supply of water and food that won't spoil.

Even after a hurricane passes by, conditions outside may still be dangerous. Here are some tips for you and your family.

- Keep listening to the radio for updates on flooding and highway conditions. Wait until an area is declared safe before going back into it.
- Stay away from moving water. Rapidly moving water even less than a foot deep can sweep you away. If you see water flowing across a street, turn around and go another way.
- Don't play in flooded areas. They are dangerous. The water may also be electrically charged from downed or underground power lines.
- Use a flashlight for emergency lighting. Don't use a candle or a flame indoors if the power goes off.
- Use bottled or stored water for drinking and cooking. Use tap water only when local officials say it is safe.
- Use the telephone only for emergency calls. If someone needs to be rescued or helped, call the police or local officials.

By preparing ahead and listening to the radio and following instructions, everyone can be much safer during a hurricane.

People are now much more aware of hurricanes than they were twenty-five years ago. When a hurricane threatens the United States, it becomes big news on television and radio. Even people who live in the middle of the country and will never experience a hurricane at home are interested in what's happening during the storm.

Along the East Coast, hurricanes are a fact of life. But nowadays forecasts, combined with timely warnings about hurricane dangers, are saving lives. The more we learn about hurricanes, the better our chances of coming through them safely.

Talking Up a Storm with Seymour Simon



Seymour Simon has written over 200 books, but he still calls himself a teacher. He started by teaching in a classroom, but now reaches more kids through his books. First, Seymour picks a topic he loved as a child. “Interests don’t change,” he says. “Kids still love spectacular things.” After that, he researches and writes and rewrites the story until the explanations and descriptions are perfectly clear. Seymour wants his books to open up new worlds to the reader, not just answer questions. Then, when the books come out, he is back in the classroom, talking again to students and teachers.

Other books by Seymour Simon:

Storms and Volcanoes



Find out more about
Seymour Simon at

www.macmillanmh.com

Author's Purpose

Would you say that the author believes it is important to study extreme weather? What details from the selection help you to know?



Comprehension Check



Summarize

Use your Description Chart to help you summarize *Hurricanes*. Be sure to include descriptive facts, characteristics, and important details in your summary.

Signal Words	Descriptive Facts

Think and Compare



1. Use the descriptive details on page 467 to describe tropical depressions, tropical storms, and hurricanes. Include facts and characteristics about each kind of storm in your description. **Text Structure: Description**
2. Reread the tips on page 475. Why should you stay inside until the area is declared safe after a hurricane? **Analyze**
3. Decide why you would or would not like to be a pilot or scientist who flies through the eyes of **hurricanes** to measure wind speed. Explain your answer. **Analyze**
4. Why are people who will never directly experience hurricanes interested in these storms? **Evaluate**
5. Reread "The Extreme Costs of Extreme Weather" on pages 462–463. Compare the damage and injury caused by Hurricane Floyd with the damage and injury caused by Hurricane Andrew that is described in *Hurricanes*. **Reading/Writing Across Texts**

Poetry

Free Verse Poems

are written without a traditional rhyme scheme or meter.



Literary Elements

Personification is when human characteristics are given to animals, objects, or ideas.

Imagery is the use of descriptions to create vivid pictures in the reader's mind.

Onomatopoeia is a word that sounds like the action or object it describes.

Suspense

by Pat Mora

Wind chases itself
Around our house, flattens
wild grasses
with one hot breath.
Clouds boil purple
and gray, roll
and roil. Scorpions
dart
under stones. Rabbit eyes peer
From the shelter of mesquite.
Thorny silence.

The wind
“chases itself” is
an example of
personification.

The poet
uses imagery
with the words
“Clouds boil
purple and gray.”

My *paisano*, the road runner
 paces, dashes into the rumble,
 races from the *plink, plink*
 splatter into his shadow, leaps
 at the crash flash
 splash,
 sky rivers rushing into arroyos and
 Thirsty roots of prickly pears,
 greening cactus.

“Plink, Plink”
 is an example of
 onomatopoeia.

Connect and Compare

1. List another example of imagery from this poem. Describe the picture that this example paints in your mind. **Imagery**
2. What effect does the use of the present tense have in this poem? **Analyze**
3. Compare and contrast the storm in the poem to the information in *Hurricanes*. How are the storms different? How are they the same? Use information in each text to explain your answer.



Find out more about poetry at www.macmillanmh.com

Writing a Magazine Article

Writer's Craft

Tone

To convey their messages effectively, writers choose an appropriate **tone**. They often use a serious tone for important subjects but may also decide to treat a subject humorously.

I wanted to discuss important facts about global warming and how it might cause extreme weather.

I used a serious tone throughout my article.

Global Warming and Extreme Weather

by Robert L.

Are you tired of hearing about long droughts, blazing fires, roaring floods, and huge hurricanes? Global warming and extreme weather seem to go hand in hand. That's why we're experiencing more and more serious storms.

Smoke pouring from our cars and factories is partly to blame. Carbon monoxide is a gas found in this smoke. It creates a hot-air blanket around Earth. If too much carbon monoxide is released into the atmosphere, Earth becomes warmer and severe weather can occur.

Scientists are working to find ways to reduce the amount of carbon monoxide that is released into the atmosphere. One solution is the development of new products that are more fuel efficient. Another solution is for each of us to do our part. We can slow global warming by thinking about the future and using energy sources more responsibly.

Your Turn

Choose a weather topic that interests you. Write a descriptive magazine article about it.

Remember to take good notes as you do your research. Add details to the facts in your notes. Be sure to maintain an appropriate tone in your article. Use the writer's checklist to check your writing.



Writer's Checklist

- ☒ **Ideas and Content:** Did I choose a weather topic that interests me? Did I research it fully?
- ☒ **Organization:** Does each paragraph of my article have a clear main idea?
- ☒ **Voice:** Did I use an appropriate **tone** in my article?
- ☒ **Word Choice:** Did I choose words that will appeal to my audience?
- ☒ **Sentence Fluency:** Do descriptive details make some of my sentences longer and more interesting?
- ☒ **Conventions:** Did I use hyphens correctly? Did I proofread for spelling errors?